

Supplemental Table: Major Diseases and Health Conditions ICD-9 Codes

Codes	Diseases
	Diabetes
250.0[0-3]	Diabetes mellitus without mention of complication
250.1[0-3]	Diabetes with ketoacidosis
250.2[0-3]	Diabetes with hyperosmolarity
250.3[0-3]	Diabetes with other coma
250.4[0-3]	Diabetes with renal manifestations
250.5[0-3]	Diabetes with ophthalmic manifestations
250.6[0-3]	Diabetes with neurological manifestations
250.7[0-3]	Diabetes with peripheral circulatory disorders
250.8[0-3]	Diabetes with other specified manifestations
250.9[0-3]	Diabetes with unspecified complication
	Secondary diabetes
249.0[0-1]	Secondary diabetes mellitus without mention of complication
249.1[0-1]	Secondary diabetes mellitus with ketoacidosis
249.2[0-1]	Secondary diabetes mellitus with hyperosmolarity
249.3[0-1]	Secondary diabetes mellitus with other coma
249.4[0-1]	Secondary diabetes mellitus with renal manifestations
249.5[0-1]	Secondary diabetes mellitus with ophthalmic manifestations
249.6[0-1]	Secondary diabetes mellitus with neurological manifestations
249.7[0-1]	Secondary diabetes mellitus with peripheral circulatory disorders
249.8[0-1]	Secondary diabetes mellitus with other specified manifestations
249.9[0-1]	Secondary diabetes mellitus with unspecified complication
	STD
090	Congenital syphilis
091	Early syphilis, symptomatic
092	Early syphilis, latent
093	Cardiovascular syphilis
094	Neurosyphilis
095	Other forms of late syphilis, with symptoms
096	Late syphilis, latent
097	Other and unspecified syphilis
098	Gonococcal infections
099	Other venereal diseases
	Cancer
140	Malignant neoplasm of lip
141	Malignant neoplasm of tongue
142	Malignant neoplasm of major salivary glands
143	Malignant neoplasm of gum
144	Malignant neoplasm of floor of mouth
145	Malignant neoplasm of other and unspecified parts of mouth
146	Malignant neoplasm of oropharynx
147	Malignant neoplasm of nasopharynx
148	Malignant neoplasm of hypopharynx
149	Malignant neoplasm of other and ill-defined sites within the lip, oral cavity, and pharynx
150	Malignant neoplasm of esophagus
151	Malignant neoplasm of stomach
152	Malignant neoplasm of small intestine, including duodenum
153	Malignant neoplasm of colon
154	Malignant neoplasm of rectum, rectosigmoid junction, and anus
155	Malignant neoplasm of liver and intrahepatic bile ducts
156	Malignant neoplasm of gallbladder and extrahepatic bile ducts
157	Malignant neoplasm of pancreas
158	Malignant neoplasm of retroperitoneum and peritoneum
159	Malignant neoplasm of other and ill-defined sites within the digestive organs and peritoneum
160	Malignant neoplasm of nasal cavities, middle ear, and accessory sinuses
161	Malignant neoplasm of larynx
162	Malignant neoplasm of trachea, bronchus, and lung
163	Malignant neoplasm of pleura
164	Malignant neoplasm of thymus, heart, and mediastinum
165	Malignant neoplasm of other and ill-defined sites within the respiratory system and intrathoracic organs
170	Malignant neoplasm of bone and articular cartilage
171	Malignant neoplasm of connective and other soft tissue
172	Malignant melanoma of skin

173 Other malignant neoplasm of skin
 174 Malignant neoplasm of female breast
 175 Malignant neoplasm of male breast
 176 Kaposi's sarcoma
 179 Malignant neoplasm of uterus, part unspecified
 180 Malignant neoplasm of cervix uteri
 181 Malignant neoplasm of placenta
 182 Malignant neoplasm of body of uterus
 183 Malignant neoplasm of ovary and other uterine adnexa
 184 Malignant neoplasm of other and unspecified female genital organs
 185 Malignant neoplasm of prostate
 186 Malignant neoplasm of testis
 187 Malignant neoplasm of penis and other male genital organs
 188 Malignant neoplasm of bladder
 189 Malignant neoplasm of kidney and other and unspecified urinary organs
 190 Malignant neoplasm of eye
 191 Malignant neoplasm of brain
 192 Malignant neoplasm of other and unspecified parts of nervous system
 193 Malignant neoplasm of thyroid gland
 194 Malignant neoplasm of other endocrine glands and related structures
 195 Malignant neoplasm of other and ill-defined sites
 196 Secondary and unspecified malignant neoplasm of lymph nodes
 197 Secondary malignant neoplasm of respiratory and digestive systems
 198 Secondary malignant neoplasm of other specified sites
 199 Malignant neoplasm without specification of site
 200 Lymphosarcoma and reticulosarcoma and other specified malignant tumors of lymphatic tissue
 201 Hodgkin's disease
 202 Other malignant neoplasms of lymphoid and histiocytic tissue
 203 Multiple myeloma and immunoproliferative neoplasms
 204 Lymphoid leukemia
 205 Myeloid leukemia
 206 Monocytic leukemia
 207 Other specified leukemia
 208 Leukemia of unspecified cell type
 209.0 Malignant carcinoid tumors of the small intestine
 209.1 Malignant carcinoid tumors of the appendix, large intestine, and rectum
 209.2 Malignant carcinoid tumors of other and unspecified sites
 209.3 Malignant poorly differentiated neuroendocrine tumors

CIRCULATORY SYSTEM

390 Rheumatic fever without mention of heart involvement
 391 Rheumatic fever with heart involvement
 392 Rheumatic chorea with heart involvement
 393 Chronic rheumatic pericarditis
 394 Diseases of mitral valve
 395 Diseases of aortic valve
 396 Diseases of mitral and aortic valves
 397 Diseases of other endocardial structures
 398 Other rheumatic heart disease
 401 Essential hypertension
 402 Hypertensive heart disease
 403 Hypertensive chronic kidney disease
 404 Hypertensive heart and chronic kidney disease
 405 Secondary hypertension
 410 Acute myocardial infarction
 411 Other acute and subacute forms of ischemic heart disease
 412 Old myocardial infarction
 413 Angina pectoris
 414 Other forms of chronic ischemic heart disease
 415 Acute pulmonary heart disease
 416 Chronic pulmonary heart disease
 417 Other diseases of pulmonary circulation
 420 Acute pericarditis
 421 Acute and subacute endocarditis
 422 Acute myocarditis
 423 Other diseases of pericardium
 424 Other diseases of endocardium
 425 Cardiomyopathy

426 Conduction disorders
 427 Cardiac dysrhythmias
 428 Heart failure
 429 Ill-defined descriptions and complications of heart disease
 430 Subarachnoid hemorrhage
 431 Intracerebral hemorrhage
 432 Other and unspecified intracranial hemorrhage
 433 Occlusion and stenosis of precerebral arteries
 434 Occlusion of cerebral arteries
 435 Transient cerebral ischemia
 436 Acute, but ill-defined, cerebrovascular disease
 437 Other and ill-defined cerebrovascular disease
 438 Late effects of cerebrovascular disease
 440 Atherosclerosis
 441 Aortic aneurysm and dissection
 442 Other aneurysm
 443 Other peripheral vascular disease
 444 Arterial embolism and thrombosis
 445 Atheroembolism
 446 Polyarteritis nodosa and allied conditions
 447 Other disorders of arteries and arterioles
 448 Disease of capillaries
 449 Septic arterial embolism
 451 Phlebitis and thrombophlebitis
 452 Portal vein thrombosis
 453 Other venous embolism and thrombosis
 454 Varicose veins of lower extremities
 455 Hemorrhoids
 456 Varicose veins of other sites
 457 Noninfectious disorders of lymphatic channels
 458 Hypotension
 459 Other disorders of circulatory system

Respiratory diseases

460 Acute nasopharyngitis [common cold]
 461 Acute sinusitis
 462 Acute pharyngitis
 463 Acute tonsillitis
 464 Acute laryngitis and tracheitis
 465 Acute upper respiratory infections of multiple or unspecified sites
 466 Acute bronchitis and bronchiolitis
 470 Deviated nasal septum
 471 Nasal polyps
 472 Chronic pharyngitis and nasopharyngitis
 473 Chronic sinusitis
 474 Chronic disease of tonsils and adenoids
 475 Peritonsillar abscess
 476 Chronic laryngitis and laryngotracheitis
 477 Allergic rhinitis
 478 Other diseases of upper respiratory tract
 480 Viral pneumonia
 481 Pneumococcal pneumonia [Streptococcus pneumoniae pneumonia]
 482 Other bacterial pneumonia
 483 Pneumonia due to other specified organism
 484 Pneumonia in infectious diseases classified elsewhere
 485 Bronchopneumonia, organism unspecified
 486 Pneumonia, organism unspecified
 487 Influenza
 488 Influenza due to identified avian influenza virus
 490 Bronchitis, not specified as acute or chronic
 491 Chronic bronchitis
 492 Emphysema
 493 Asthma
 494 Bronchiectasis
 495 Extrinsic allergic alveolitis
 496 Chronic airway obstruction, not elsewhere classified
 500 Coal workers' pneumoconiosis
 501 Asbestosis

502 Pneumoconiosis due to other silica or silicates
 503 Pneumoconiosis due to other inorganic dust
 504 Pneumonopathy due to inhalation of other dust
 505 Pneumoconiosis, unspecified
 506 Respiratory conditions due to chemical fumes and vapors
 507 Pneumonitis due to solids and liquids
 508 Respiratory conditions due to other and unspecified external agents
 510 Empyema
 511 Pleurisy
 512 Pneumothorax
 513 Abscess of lung and mediastinum
 514 Pulmonary congestion and hypostasis
 515 Postinflammatory pulmonary fibrosis
 516 Other alveolar and parietoalveolar pneumonopathy
 517 Lung involvement in conditions classified elsewhere
 518 Other diseases of lung
 519 Other diseases of respiratory system

Liver diseases(Chronic liver disease and cirrhosis)

571.0 Alcoholic fatty liver
 571.1 Acute alcoholic hepatitis
 571.2 Alcoholic cirrhosis of liver
 571.3 Alcoholic liver damage, unspecified
 571.40 Chronic hepatitis, unspecified
 571.41 Chronic persistent hepatitis
 571.42 Autoimmune hepatitis
 571.49 Other Chronic hepatitis
 571.5 Cirrhosis of liver without mention of alcohol
 571.6 Biliary cirrhosis
 571.8 Other chronic nonalcoholic liver disease
 571.9 Unspecified chronic liver disease without mention of alcohol

Sleep disorders

291.82 Alcohol induced sleep disorders
 292.85 Drug induced sleep disorders
 307.40 Nonorganic sleep disorder, unspecified
 307.41 Transient disorder of initiating or maintaining sleep
 307.42 Persistent disorder of initiating or maintaining sleep
 307.43 Transient disorder of initiating or maintaining wakefulness
 307.44 Persistent disorder of initiating or maintaining wakefulness
 307.45 Circadian rhythm sleep disorder of nonorganic origin
 307.46 Sleep arousal disorder
 307.47 Other dysfunctions of sleep stages or arousal from sleep
 307.48 Repetitive intrusions of sleep
 307.49 Other specific disorders of sleep of nonorganic origin
 327.0 Organic disorders of initiating and maintaining sleep [Organic insomnia]
 327.1 Organic disorder of excessive somnolence [Organic hypersomnia]
 327.2 Organic sleep apnea
 327.3 Circadian rhythm sleep disorder
 327.4 Organic parasomnia
 327.5 Organic sleep related movement disorders
 327.8 Other organic sleep disorders
 780.50 Sleep disturbance, unspecified
 780.51 Insomnia with sleep apnea, unspecified
 780.52 Insomnia, unspecified
 780.53 Hypersomnia with sleep apnea, unspecified
 780.54 Hypersomnia, unspecified
 780.55 Disruption of 24 hour sleep wake cycle, unspecified
 780.56 Dysfunctions associated with sleep stages or arousal from sleep
 780.57 Unspecified sleep apnea
 780.58 Sleep related movement disorder, unspecified
 780.59 Other sleep disturbances

HIV

V08 Asymptomatic human immunodeficiency virus [HIV] infection status
 042 Human immunodeficiency virus [HIV] disease

HCV

070.41	Acute hepatitis C with hepatic coma
070.44	Chronic hepatitis C with hepatic coma
070.51	Acute hepatitis C without mention of hepatic coma
070.54	Chronic hepatitis C without mention of hepatic coma
070.70	Unspecified viral hepatitis C without hepatic coma
070.71	Unspecified viral hepatitis C with hepatic coma
V02.60	Viral hepatitis carrier, unspecified
V02.62	Hepatitis C carrier
V02.69	Other viral hepatitis carrier
V12.09	Personal history of other infectious and parasitic diseases

Chronic pain

307.81	Tension headache
307.89	Other pain disorders related to psychological factors
338.21	Chronic pain due to trauma
338.22	Chronic post-thoracotomy pain
338.28	Other chronic postoperative pain
338.29	Other chronic pain
338.4	Chronic pain syndrome
346.0	Migraine with aura
346.1	Migraine without aura
346.2	Variants of migraine, not elsewhere classified
346.3	Hemiplegic migraine
346.4	Menstrual migraine
346.5	Persistent migraine aura without cerebral infarction
346.6	Persistent migraine aura with cerebral infarction
346.7	Chronic migraine without aura
346.8	Other forms of migraine
346.9	Migraine, unspecified
710	Diffuse diseases of connective tissue
711	Arthropathy associated with infections
712	Crystal arthropathies
713	Arthropathy associated with other disorders classified elsewhere
714	Rheumatoid arthritis and other inflammatory polyarthropathies
715	Osteoarthritis and allied disorders
716	Other and unspecified arthropathies
717	Internal derangement of knee
718	Other derangement of joint
719	Other and unspecified disorders of joint
720	Ankylosing spondylitis and other inflammatory spondylopathies
721	Spondylosis and allied disorders
722	Intervertebral disc disorders
723	Other disorders of cervical region
724	Other and unspecified disorders of back
725	Polymyalgia rheumatica
726	Peripheral enthesopathies and allied syndromes
727	Other disorders of synovium, tendon, and bursa
728	Disorders of muscle, ligament, and fascia
729	Other disorders of soft tissues

Mental health related

Depression

290.13	PRESENILE DEMENTIA WITH DEPRESSIVE FEATURES
290.21	SENILE DEMENTIA WITH DEPRESSIVE FEATURES
296.20	MAJOR DEPRESSIVE AFFECTIVE DISORDER SINGLE EPISODE UNSPECIFIED DEGREE
296.21	MAJOR DEPRESSIVE AFFECTIVE DISORDER SINGLE EPISODE MILD DEGREE
296.22	MAJOR DEPRESSIVE AFFECTIVE DISORDER SINGLE EPISODE MODERATE DEGREE
296.23	MAJOR DEPRESSIVE AFFECTIVE DISORDER SINGLE EPISODE SEVERE DEGREE WITHOUT PSYCHOTIC BEHAVIOR
296.24	MAJOR DEPRESSIVE AFFECTIVE DISORDER SINGLE EPISODE SEVERE DEGREE SPECIFIED AS WITH PSYCHOTIC BEHAVIOR
296.25	MAJOR DEPRESSIVE AFFECTIVE DISORDER SINGLE EPISODE IN PARTIAL OR UNSPECIFIED REMISSION
296.26	MAJOR DEPRESSIVE AFFECTIVE DISORDER SINGLE EPISODE IN FULL REMISSION
296.30	MAJOR DEPRESSIVE AFFECTIVE DISORDER RECURRENT EPISODE UNSPECIFIED DEGREE
296.31	MAJOR DEPRESSIVE AFFECTIVE DISORDER RECURRENT EPISODE MILD DEGREE
296.32	MAJOR DEPRESSIVE AFFECTIVE DISORDER RECURRENT EPISODE MODERATE DEGREE
296.33	MAJOR DEPRESSIVE AFFECTIVE DISORDER RECURRENT EPISODE SEVERE DEGREE WITHOUT PSYCHOTIC BEHAVIOR
296.34	MAJOR DEPRESSIVE AFFECTIVE DISORDER RECURRENT EPISODE SEVERE DEGREE SPECIFIED AS WITH PSYCHOTIC BEHAVIOR
296.35	MAJOR DEPRESSIVE AFFECTIVE DISORDER RECURRENT EPISODE IN PARTIAL OR UNSPECIFIED REMISSION

296.36 MAJOR DEPRESSIVE AFFECTIVE DISORDER RECURRENT EPISODE IN FULL REMISSION
 296.82 ATYPICAL DEPRESSIVE DISORDER
 301.12 CHRONIC DEPRESSIVE PERSONALITY DISORDER
 309.1 ADJUSTMENT REACTION WITH PROLONGED DEPRESSIVE REACTION
 311 DEPRESSIVE DISORDER NOT ELSEWHERE CLASSIFIED
 300.4 Dysthymic disorder

Anxiety

293.84 ANXIETY DISORDER IN CONDITIONS CLASSIFIED ELSEWHERE
 300.00 ANXIETY STATE UNSPECIFIED
 300.02 GENERALIZED ANXIETY DISORDER
 300.09 OTHER ANXIETY STATES
 309.21 SEPARATION ANXIETY DISORDER
 309.81 PTSD
 300.3 ODC
 300.01 Panic disorder without agoraphobia
 3000.21 Agoraphobia w panic disorder

Bipolar

296.00 BIPOLAR I DISORDER, SINGLE MANIC EPISODE, UNSPECIFIED
 296.01 BIPOLAR I DISORDER, SINGLE MANIC EPISODE, MILD
 296.02 BIPOLAR I DISORDER, SINGLE MANIC EPISODE, MODERATE
 296.03 BIPOLAR I DISORDER, SINGLE MANIC EPISODE, SEVERE, WITHOUT MENTION OF PSYCHOTIC BEHAVIOR
 296.04 BIPOLAR I DISORDER, SINGLE MANIC EPISODE, SEVERE, SPECIFIED AS WITH PSYCHOTIC BEHAVIOR
 296.05 BIPOLAR I DISORDER, SINGLE MANIC EPISODE, IN PARTIAL OR UNSPECIFIED REMISSION
 296.06 BIPOLAR I DISORDER, SINGLE MANIC EPISODE, IN FULL REMISSION
 296.40 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) MANIC, UNSPECIFIED
 296.41 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) MANIC, MILD
 296.42 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) MANIC, MODERATE
 296.43 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) MANIC, SEVERE, WITHOUT MENTION OF PSYCHOTIC BEHAVIOR
 296.44 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) MANIC, SEVERE, SPECIFIED AS WITH PSYCHOTIC BEHAVIOR
 296.45 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) MANIC, IN PARTIAL OR UNSPECIFIED REMISSION
 296.46 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) MANIC, IN FULL REMISSION
 296.50 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) DEPRESSED, UNSPECIFIED
 296.51 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) DEPRESSED, MILD
 296.52 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) DEPRESSED, MODERATE
 296.53 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) DEPRESSED, SEVERE, WITHOUT MENTION OF PSYCHOTIC BEHAVIOR
 296.54 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) DEPRESSED, SEVERE, SPECIFIED AS WITH PSYCHOTIC BEHAVIOR
 296.55 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) DEPRESSED, IN PARTIAL OR UNSPECIFIED REMISSION
 296.56 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) DEPRESSED, IN FULL REMISSION
 296.60 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) MIXED, UNSPECIFIED
 296.61 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) MIXED, MILD
 296.62 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) MIXED, MODERATE
 296.63 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) MIXED, SEVERE, WITHOUT MENTION OF PSYCHOTIC BEHAVIOR
 296.64 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) MIXED, SEVERE, SPECIFIED AS WITH PSYCHOTIC BEHAVIOR
 296.65 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) MIXED, IN PARTIAL OR UNSPECIFIED REMISSION
 296.66 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) MIXED, IN FULL REMISSION
 296.7 BIPOLAR I DISORDER, MOST RECENT EPISODE (OR CURRENT) UNSPECIFIED
 296.80 BIPOLAR DISORDER, UNSPECIFIED
 296.89 OTHER AND UNSPECIFIED BIPOLAR DISORDERS, OTHER

Psychosis

298.0 DEPRESSIVE TYPE PSYCHOSIS
 298.1 EXCITATIVE TYPE PSYCHOSIS
 298.4 PSYCHOGENIC PARANOID PSYCHOSIS
 298.8 OTHER AND UNSPECIFIED REACTIVE PSYCHOSIS
 298.9 UNSPECIFIED PSYCHOSIS
 295.0—295.xx schizophrenia